

REMARKS

Claim 1 has been amended to delete the metal Ti from the first electrode layer. Claim 8 has been amended to replace “metal having a free energy of nitride formation of less than -51 kcal/mol” to at least one “selected from a first metal group consisting of Ti, Hf, Zr, Nb Ta and Sc.” This amendment is supported by the specification on page 3, lines 6-8. New claims 12-14 have been added. No new matter has been added.

Claims 8-11 stand rejected under 35 USC 112, first paragraph, because the Examiner does not find support in the specification for a “first electrode layer including at least one metal having a free energy of nitride formation of less -51 kcal/mol.” Independent claim 8 has been amended to remove this language from the claim making this rejection moot.

Claim 1 stands rejected under 35 USC 102(e) as being anticipated by Okazaki. The Examiner states that “Okazaki discloses an electrode structure on a p-type III group nitride semiconductor layer comprising first, second and third electrode layers successively stacked on said semiconductor layer, said first electrode layer including a Ti, said second electrode layer including a Pd, and said third electrode layer including Au.” Claim 1 has been amended to delete Ti from the first metal group of the first electrode layer. Okazaki does not disclose “a first electrode layer including at least one selected from a first metal group of Hf, Zr, Nb, Ta and Sc,” as claimed by applicants. Okazaki only discloses a p-type electrode with a first layer containing titanium (Ti) or tungsten (W). See Okazaki, column 3, lines 4-6. Since Okazaki fails to teach all of the limitations claimed by applicants, claim 1 is not anticipated by Okazaki and should be allowed.

Claims 2-5 stand rejected under 35 USC 103(a) as being unpatentable over Okazaki. This rejection is respectfully traversed. Claims 2-5 are dependent upon amended claim 1. As

stated above, claim 1 has been amended to delete Ti from the first metal group of the first electrode layer. Okazaki does not disclose “a first electrode layer including at least one selected from a first metal group consisting of Hf, Zr, Nb, Ta and Sc,” as claimed by applicants in claims 2-5. Accordingly, claims 2-5 are allowable over Okazaki.

Further, the Examiner has not provided the required proof to substantiate a 103(a) rejection of claims 2-4. With respect to claims 2 and 3, the Examiner states that “Okazaki does not explicitly disclose the first and second electrode layers have a thickness in a range from 1 to 500 nm.” Regarding claim 4, the Examiner states that “Okazaki does not explicitly disclose the third electrode layer has a thickness of 50 nm or more.” However, it is the Examiner’s contention that the “selection of thickness of various layers in device is an obvious design choice, therefore held within ordinary skills in the art.” The Federal Circuit has recently made clear that the Patent Office “cannot simply reach conclusions based on its own understanding or experience -- or on its assessment of what would be basic knowledge or common sense. Rather the [USPTO] must point to some concrete evidence in the record to support these findings.” *In Re Zurko*, 258 F.3d 1379, 1385; 59 USPQ2d 1693, 1697 (Fed. Cir. 2001). Accordingly, in deciding what is an obvious design choice, the Examiner must provide some concrete evidence of why those of ordinary skill in the art would have chosen the claimed thickness.

For the foregoing reasons allowance of claims 1-5 and 8-14 in this application is solicited.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page is captioned “**Version with markings to show changes made**”.

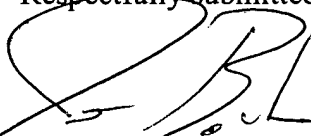
In the event that the transmittal letter is separated from this document and the Patent and Trademark Office determines that an extension and/or other relief is required, applicant petitions

for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to **Deposit Account No. 03-1952** referencing docket no. 245402001600. However, the Commissioner is not authorized to charge the cost of the issue fee to the Deposit Account.

Respectfully submitted,

Dated: June 11, 2002

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Claims:

Please amend claims 1 and 8 as follows:

1. (Twice Amended) An electrode structure on a p-type III group nitride semiconductor layer, comprising first, second and third electrode layers successively stacked on said semiconductor layer,

said first electrode layer including at least one selected from a first metal group consisting of Ti, Hf, Zr, Nb, Ta and Sc,

said second electrode layer including at least one selected from a second metal group consisting of Ni, Pd and Co, and

said third electrode layer including Au.

8. (Amended) An electrode structure on a p-type III group nitride semiconductor layer, comprising first, second and third electrode layers successively stacked on said semiconductor layer,

said first electrode layer including at least one selected from a first metal group consisting of Ti, Hf, Zr, Nb, Ta and Sc ~~metal having a free energy of nitride formation of less than 51 kcal/mol,~~

said second electrode layer including at least one selected from a second metal group consisting of Ni, ~~Pd~~ and Co, and

said third electrode layer including Au.